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ABSTRACT

The report on the 1974-75 statewide field test of 13 Arizona-developed career education curriculum units presents information concerning the overall implementation rationale and a summary of resulting data. The field test was conducted to determine the units' usability in classrooms throughout the State. Units meeting all implementation criteria were considered ready for large-scale dissemination. The report provides demographic and impact data to help decision makers determine the type of students with which each unit will be effective. Tested were one unit each for grades K, 1, and 2; four units for grade 5; two units for grade 6; and three units for grades 7/8. Data were collected by the evaluation instrument, UNIVAL (appended), designed to obtain: (1) student/teacher demographic information, (2) student/teacher attitude information, and (3) unit effectiveness data. Teacher comments were also elicited. The data analyzed were from approximately 11,000 students and 331 teachers in 10 implementation projects. Significant summary statistics are presented and discussed in the report. Overall unit effectiveness is ranked in relation to students' ethnic profiles. Teacher and student attitudes toward the units were very positive, as were teachers' perceptions of units' effectiveness. All 13 units were recommended for statewide dissemination. (AJ)

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ARIZONA RESEARCH COORDINATING UNIT
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IMPLEMENTATION REPORT
Vol. 1

ALL UNITS
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U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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ARIZONA STATEWIDE IMPLEMENTATION 1974-75

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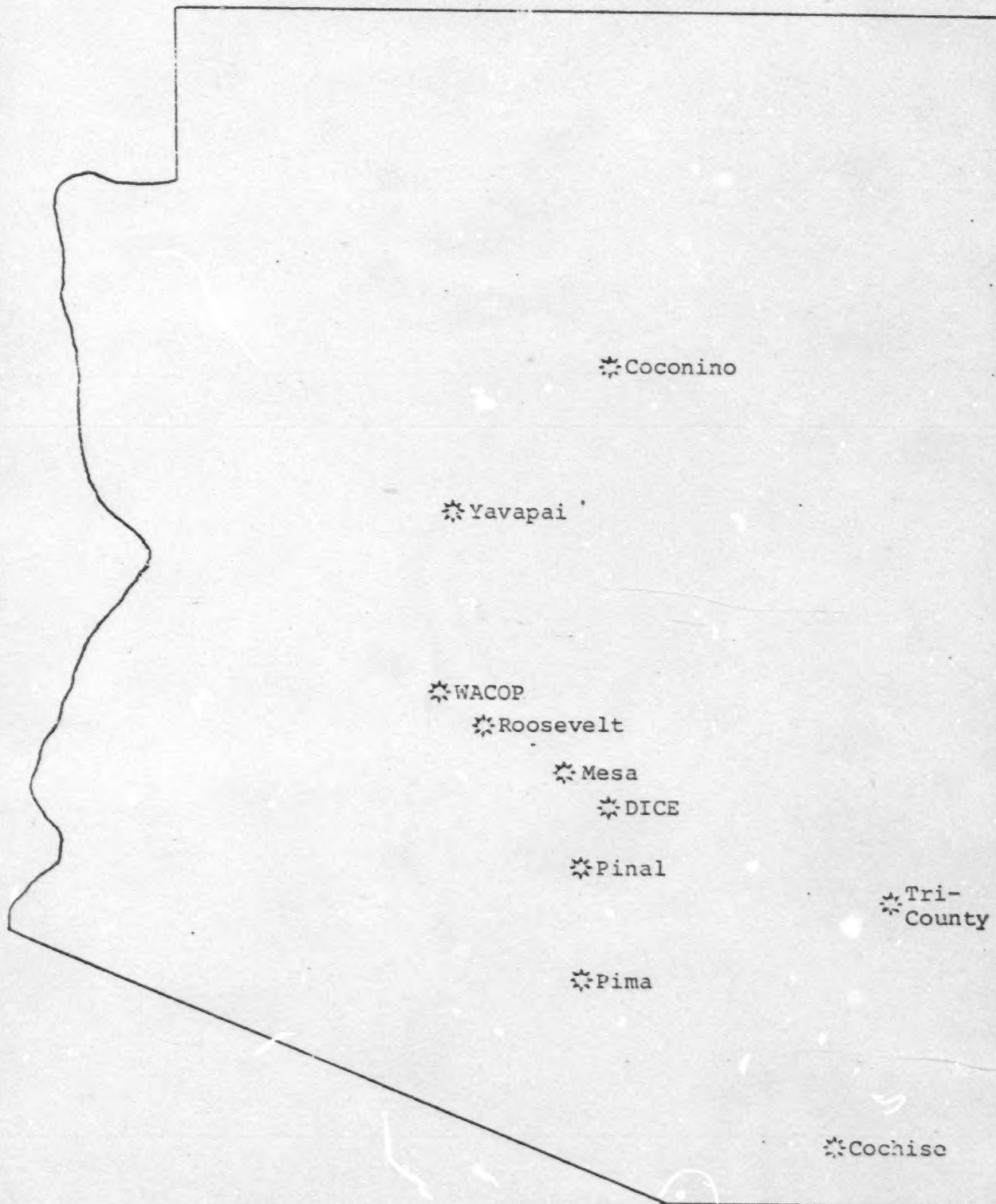
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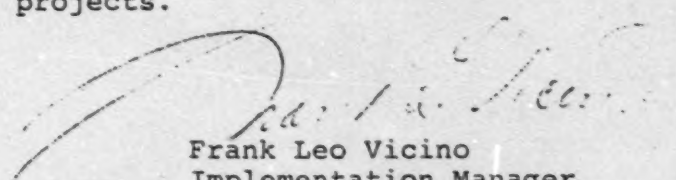
A STATEWIDE UNIFIED
ASSESSMENT OF THE IMPLEMENTATION
CAREER EDUCATION UNITS



FOREWORD

So many have contributed major input to the implementation processes of unit delivery, monitoring and instrument completion that it is impossible to extract, note, and applaud individual efforts. I am sure that all those involved in this major team effort can see how much has been accomplished and have a positive view of its educational significance for the young people of Arizona. By documenting and analyzing the capabilities of the career education units tested, we all have contributed a positive boost to career education in school districts across the state.

The task of Implementation Manager has been simplified considerably by excellent staff support from the Mesa Public Schools Department of Research and Evaluation, responsive assistance from the State Department of Education, and the effective management shown by the implementation coordinators from the respective implementation projects.



Frank Leo Vicino
Implementation Manager

JUNE, 1975

STATEWIDE IMPLEMENTATION TASK FORCE

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Data Reduction

PREFACE

This is one of two implementation reports on Arizona developed Career Education Curriculum Units. This report presents information concerning overall implementation rationale and compilation of results for all implemented units. The second report in this series contains unit specific implementation material.

The work presented and reported herein was performed pursuant to contract from the Arizona State Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the Arizona State Department of Education and no official endorsement by the Arizona State Department of Education should be inferred.

Objectives

The implementation phase of the curriculum development of the state developed Career Education Instructional Units was conducted to determine the impact on students' cognitive, effective, and psychomotor behavior according to expressed behavioral objectives. The implementation phase of curriculum development involved the use of the curriculum material with as wide a population as possible in a semi-unstructured testing situation. This gave the teachers a higher degree of individual flexibility.

The objective of this report, then, is to document the collection, compilation, and summary of the data obtained during the implementation of the state Career Education Curriculum Units during the 1974-75 school year.

The implementation of 13 career education curriculum units was conducted statewide in the following 10 projects:

Cochise	Pinal
Coconino	Roosevelt
DICE	Tri-County
Mesa	WACOP
Pima	Yavapai

The units that were implemented were:

<u>Units</u>	<u>Grade</u>
Tools for Toil	K
Reading, Writing and Numbering	1
What do Workers Do?	2
Doing Your Thing	4
Developing Your Potential	5

Executive Summary

<u>Units</u>	<u>Grade</u>
Future Me	5
Following and Giving Directions	5
Ideas, Things to Think About	5
Skill Schemes	6
Look to Learning	6
Careers Calling	7/8
Then and Now	7/8
Composition of Business Letters	7/8

Approach

Unit data was collected by use of an evaluation instrument, UNIVAL, designed to obtain Student/Teacher Demographic Information, Student/Teacher Attitude and Unit Effectiveness data. Additionally, teachers were requested to list comments or remarks for unit refinement.

The data analyzed was from approximately 11,000 students and 331 teachers over the 10 projects.

Results

1. The returned data sheets show that at least 11,000 learners were exposed to the 13 units in the 10 participating projects. Fifty-one percent of the learners were male and seventy-one percent of the learners were Anglo.
2. Of the 331 teachers that presented the units only 20% were male.

3. Only 16% of the teachers had previously worked with career education units.
4. Overall the teachers had a positive attitude toward the units, a mean attitude score of 3.98 with the highest possible being 5. Of the 331 teachers responding, 82% were positive, 11% were of no opinion and 7% were negative.
5. Teachers that had a high positive attitude toward career education appeared also to favor the units ($r = 0.55$).
6. Learner Attitude was positive toward all units across all projects (3.94 on a scale where 5 was the highest possible response). Seventy-six percent of the student responses were positive toward the units, 17% no opinion, and 7% were negative toward the unit.
7. A ranking of the units in terms of Teacher Attitude, Student Attitude and Perceived Unit Effectiveness is presented in this report.
8. Student demographic data for each site was subjected to an ethnic profile. The units were ranked by effectiveness in relation to ethnic profiles, so that districts with comparable ethnic profiles could use the information for implementation decisions.
9. Student demographic data from all sites was subjected to a bilingual profile. Units which were used in a

situation with 20% or greater bilingual population were ranked by effectiveness in relation to being bilingual.

Recommendations

1. All 13 units which were implemented were satisfactory, but two units (6, 13) were marginally acceptable with low student (3.3) and teacher (3.4) attitudes. These units should be reviewed before statewide dissemination.
2. It is highly recommended that an attachment containing suggestions for refinements be included with the units for use by the teachers. In volume 2 the individual unit comment lists enumerate the changes that should be made to a unit before dissemination.

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INTRODUCTION

The major purpose of this career education program, unit implementation, was to affect positively students' cognitive, affective and psychomotor behavior according to expressed performance objectives.

The implementation phase of the curriculum development process was designed to measure the impact of the units on a broader population base than the field test and was without the constraints and controls imposed by field testing.

Further, selected demographic data was solicited in the instrumentation in order to identify bilingual students and therefore determine how effective each unit was with the bilingual student.

A secondary purpose of the implementation testing was to provide data which could be used to determine which units or sections of units should be duplicated and in what degree for dissemination.

Data from the implementation were further analyzed and summarized so that curriculum decisions regarding adoption of units could be made by Arizona school districts. The implementation data provides sufficient demographic and impact data so that an administrator can judge the suitability of the units for different types of student populations and then

make decisions regarding potential effect on those students.

The Mesa Public Schools Department of Research and Evaluation, as the implementation management team, was responsible for the development of an implementation test instrument and the monitoring and coordination of the implementation testing. The major responsibility of the management team was to reduce and analyze all data received from the cooperating project sites. Other responsibilities included an orientation workshop for the project coordinators and on-site interviews with the project staff and classroom teachers.

The following Table presents the titles, grade level, unit number and initial distribution to the project sites.

(Note: Cochise was a volunteer nonfunded project).

Table I
GOAL 16
IMPLEMENTATION UNIT DISTRIBUTION

UNITS:	GRADE	QUANTITY AVAILABLE	ESTIMATED TEACHING HOURS
1. Tools for Toil	K	125	8
2. Reading, Writing and Numbering	1	125	8
3. What Do Workers Do?	2	30	11
4. Doing Your Thing	4	30	7
5. Developing Your Potential	5	125	8
6. Future Me	5	30	14
7. Following and Giving Directions	5	125	5
8. Ideas, Things To Think About	6	125	13
9. Skill Schemes	6	125	11
10. Look To Learning	6	30	7
11. Careers Calling	7/8	30	10
12. Then and Now	7/8	30	6
13. Composition of Business Letters	7/8	30	2.5

PROJECT	UNITS													TOTAL UNITS
	1	2	3	4	5	6	7	8	9	10	11	12	13	
*Cochise														170
Coconino	5	5	4	5	5	-	5	-	-	5	5	-	-	39
DICE	1	1	1	1	1	1	1	1	1	1	1	1	1	13
*Mesa	12	9	12	11	2	4	5	3	7	4	3	6	6	84
*Pima	9	6	11	4	4	4	5	4	4	4	4	5	4	69
Pinal	3	3	3	3	3	3	3	3	3	3	3	3	3	39
Roosevelt	2	2	2	1	-	-	2	-	2	1	2	2	-	16
Tri-County	5	5	4	5	5	5	5	5	5	5	5	5	5	64
WACOP	3	3	3	3	1	-	3	-	-	3	3	-	3	25
*Yavapai	4	4	5	4	4	4	6	4	4	4	3	3	3	52
TOTALS (Cochise 170)	44	38	45	37	25	21	35	20	26	30	29	25	25	571

* Some projects reproduced the units themselves for a greater distribution than available from the State Department.

THE MANAGEMENT ROLE

The basic management instrument, a time-line with milestones, insured an efficient, timely and orderly flow of implementation activities.

The basic duties were: to devise a data collection instrument, determine the unit distribution to meet each project's minimum goal requirements, set up an orientation workshop, visit each project's site, staff, and later, in a second visit, as many classrooms as possible, and finally to collect the data, format it, forward it for computer processing and the compilation of a year-end report for the State Department.

Other responsibilities were to evaluate the coordinators' workshop, the success of the units through monitoring trips, and the successful distribution of the units by each project, and to ensure that all data was received on time. Technical memos or interim reports were submitted to the state department to keep them abreast of the progress of the implementation testing.

UNIT SELECTION

The State Department (through the Research Coordinating Unit) utilized a selection procedure (criterion check-list) and selected 13 field tested units for implementation.

The management team assembled a unit list with an overview of each unit. Along with this was a unit selection form to be returned by each project site listing the project's preferences for unit acceptance and the quantity of each unit.

Units were distributed within the limitations of project requirements, quantity of units available, minimum data base requirements and State preferences.

IMPLEMENTATION INSTRUMENT DEVELOPMENT

The evaluation instrument, UNIVAL, was developed by Mesa's Department of Research and Evaluation. Copies were sent to the State Department for review and approval. The UNIVAL solicited demographic data, unit usage data, impact data and bilingual data.

IMPLEMENTATION
COORDINATORS'
WORKSHOP AND MANUAL

On September 26 at 1:00 at the State Department of Education, an Implementation Coordinators' Workshop was held, covering the following topics:

State's Role in Implementation	Dr. Beverly Wheeler
Role of the Implementation Manager	Frank Vicino
Results of Field Testing 1973-74	Dr. James DeGracie
Monitoring Site Role, Teacher Workshop, PERT, Coordinator's Manual	Charles Small
Examination of a Sample Implementation Unit	Beverly Potter
Use of UNIVAL	Don Peterson
Questions and Discussions	All

The major document used in the Implementation Coordinators' Workshop was the Mesa developed Implementation Coordinator's Manual. The workshop covered the various role demands of the Implementation Coordinator, instrument usage and in-servicing of implementation teachers at the various sites. Due to printing difficulties, the State Department did not have two of the units available for distribution to the coordinators. Those remaining two units were delivered by members of the management team during the first monitoring visit in November.

IMPLEMENTATION
UNIT
DISTRIBUTION

During the period October 1974 to April 1975, thirteen career education curriculum units were available for statewide implementation. A total of 30 copies were available of units (see Table 1) 3, 4, 6, 10, 11, 12 and 13. A total of 125 copies were available of units 1, 2, 5, 7, 8 and 9. Where requests exceeded the number of available units, the projects reproduced additional copies of the unit, e.g. 45 copies were distributed of unit 3.

The following table shows the number of units distributed to each project along with the number of UNIVALS returned from cooperating teachers.

The number of units completed doesn't entirely reflect the total classrooms impacted by the career education units. A unit may have been taught to more than one class in a team situation or in a departmentalized grade level. Also, UNIVALS returned after the May 1 cut-off date were not included because of data summarization constraints. Also, some teachers completed part of a unit but never submitted an evaluation.

All of the projects were able to place at least 90% of their units. This, however, isn't indicated by the completion rate due to the usual problems encountered in implementation testing: teachers not finding time to use the unit

until it was too late to start. losing the unit, not having the resources to accompany the unit, finding the unit too difficult for a class and stopping, or receiving it too late in the year to use but kept it to use next fall. Some projects were limited in their distribution of more units due to financial restrictions.

Although many units were requested in some projects and not completed, a satisfactory return rate was realized since the rate was above their goal minimum.

Cochise project, as noted, was a volunteer non-funded project.

The minimum number of units implemented by each project varied according to their proposal. Most projects requested more than the minimum and also completed more than was required.

TABLE 2
STATEWIDE UNIT DISTRIBUTION

PROJECT	UNIT TITLE	QUANTITY DISTRIBUTED	*NUMBER OF UNITS COMPLETED
Cochise (nonfunded project)	1. Tools for Toil	22	10
	2. Reading, Writing and Numbering	28	22
	3. What Do Workers Do?	0	0
	4. Doing Your Thing	0	0
	5. Developing Your Potential	20	6
	6. Future Me	0	0
	7. Following and Giving Directions	21	15
	8. Ideas, Things To Think About	15	6
	9. Skill Schemes	9	
	10. Look To Learning	0	0
	11. Careers Calling	0	0
	12. Then and Now	0	0
	13. Composition of Business Letters	0	0
		Total=115	Total=57 - 49
Coconino	1	5	5
	2	5	7
	3	6	5
	4	5	5
	5	5	2
	7	5	2
	10	5	4
	11	5	2
		Total=41	Total=32

*Data compiled as of May 1st. See the preceding section for an explanation.

PROJECT	UNIT TITLE	QUANTITY DISTRIBUTED	NUMBER OF UNITS COMPLETED
DICE	1	1	1
	2	1	1
	3	1	1
	4	1	1
	5	1	1
	6	1	1
	7	1	1
	8	1	0
	9	1	1
	10	1	1
	11	1	1
	12	1	1
	13	1	1
		Total=13	Total=12 = 92%
Mesa	1	12	10
	2	9	5
	3	12	8
	4	11	9
	5	2	0
	6	4	3
	7	5	3
	8	3	1
	9	7	5
	10	4	3
	11	3	1
	12	6	2
	13	6	2
		21 Total=84	Total=52

PROJECT	UNIT TITLE	QUANTITY DISTRIBUTED	NUMBER OF UNITS COMPLETED
Pima	1	9	8
	2	6	5
	3	11	8
	4	4	3
	5	4	4
	6	4	1
	7	6	6
	8	4	3
	9	4	3
	10	4	3
	11	4	3
	12	5	3
	13	4	1
		Total=69	Total=51

72%

Pinal	1	5	3
	2	7	5
	3	3	2
	4	3	3
	5	3	1
	6	3	2
	7	9	9
	8	6	4
	9	3	1
	10	4	3
	11	3	1
	12	3	2
	13	3	1
		Total=55	Total=37

67%

PROJECT	UNIT TITLE	QUANTITY DISTRIBUTED	NUMBER OF UNITS COMPLETED
Roosevelt	1	2	2
	2	2	2
	3	2	2
	4	1	1
	7	2	2
	9	2	2
	10	1	1
	11	2	2
	12	2	2
		Total=16	Total=16

15573

TRI-COUNTY	1	5	4
	2	5	10
	3	4	4
	4	5	0
	5	5	2
	6	5	2
	7	5	2
	8	5	3
	9	5	0
	10	5	0
	11	5	1
	12	5	2
	13	5	1
		Total=64	Total=31

4973

PROJECT	UNIT TITLE	QUANTITY DISTRIBUTED	NUMBER OF UNITS COMPLETED
PWACOP	1	*3	2
	2	3	2
	3	3	2
	4	3	2
	5	1	0
	7	3	2
	10	3	1
	11	3	2
	13	3	2
		Total=25*	Total=15

*One copy of each unit was kept for a library set.

Tavapai	1	4	3
	2	5	4
	3	5	5
	4	4	2
	5	4	2
	6	4	4
	7	7	7
	8	4	3
	9	4	2
	10	4	1
	11	3	0
	12	3	2
	13	3	2
24		Total=54	Total=37

DATA COLLECTION AND ANALYSIS

Implementation is a large-scale multi-purpose, multi-faceted use of a product, generating data to guide final product refinements and dissemination.

The Arizona Career Education Program developed a considerable number of instructional units through the efforts of the various participating projects in the state program. Thirteen of these units were field tested in a small number of classrooms. The field test was conducted in a fairly structured and controlled situation in order to determine the usability of the units in classrooms throughout the state. Those units that met all field test criteria were then ready for large scale classroom implementation.

This report is a documentation of the implementation of these 13 units. Data from the large scale implementation of these units can be analyzed and summarized in order to provide information that will help make curricular decisions regarding the extent of adoption by Arizona school districts. The implementation also provides sufficient demographic and impact data so that administrators and teachers will be able to determine the type of students with which each unit worked most effectively.

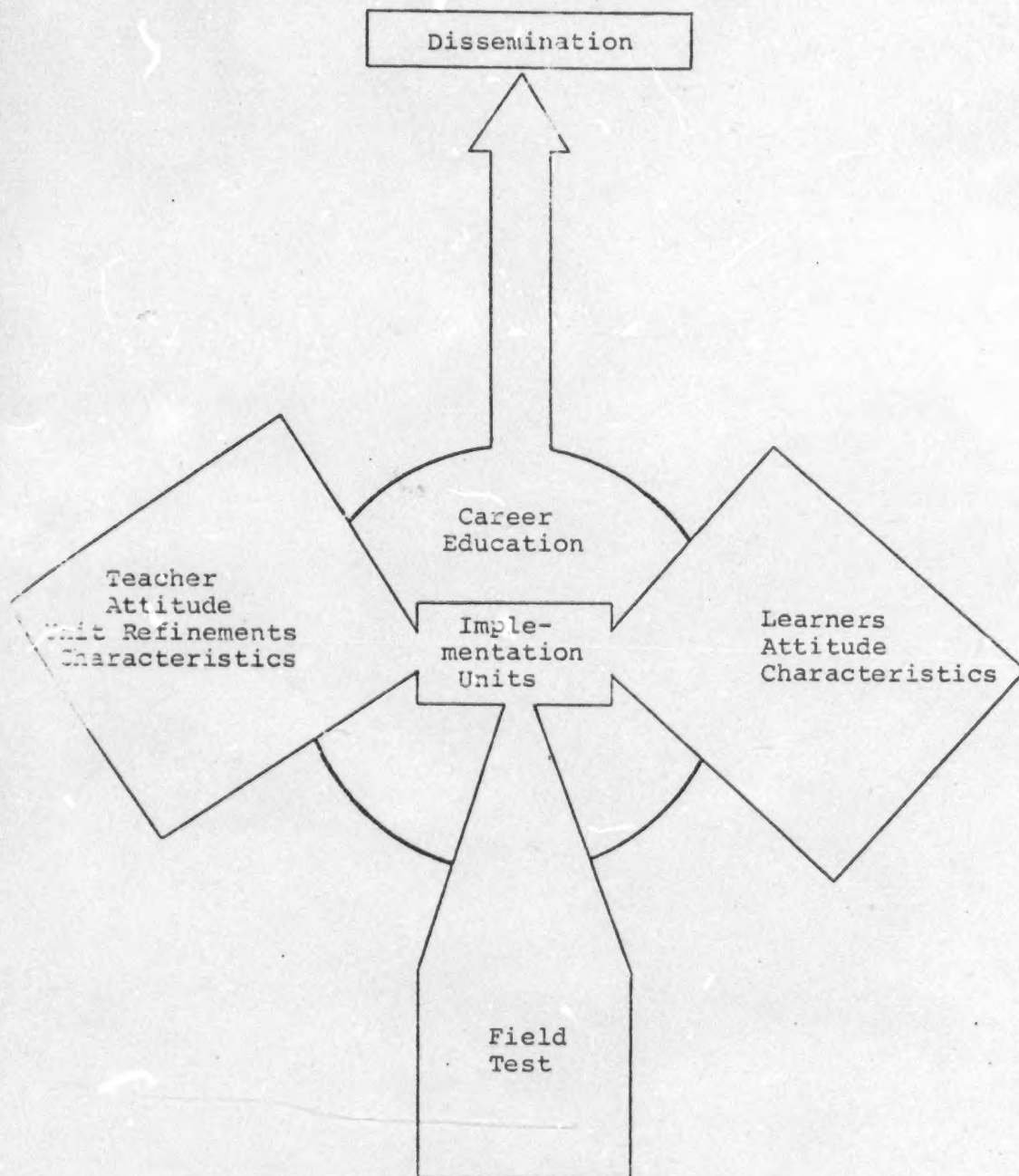


FIGURE 1
Dissemination Process Model

In an effort to answer as many of these outlined objectives as operationally and logistically possible the audience and/or contributors to career education were specifically defined. For the field test the four major population categories were: Learners, Business Community, Parents and Teachers, however, for the implementation only Learners and Teachers were involved in the evaluation process. The information from the implementation is used to determine final refinements and dissemination. (Fig. 1)

In implementation, Learner Attitude was determined to gain insight into student acceptance or rejection of the units. In addition, it is extremely important, in order to determine placement of the unit, to examine the Characteristics of the Students in relation to the unit's success. In this regard, ethnic and bilingual profiles were examined.

At the classroom teacher's level, the teacher's comments were examined concerning acceptability, ease of use, curriculum conformance, vocabulary, and effectiveness with various kinds of students.

In addition the following specific teacher information was solicited:

1. Teacher Attitude toward the unit.
2. Teacher Attitude toward career education.
3. Unit Refinement Information -- classroom teacher comments concerning unit activities, objectives, evaluation items, etc. In addition the lessons taught or left out were examined. If general

feelings about a unit or use or non-use of lessons are shared consistently by many teachers, this would lead to unit refinement.

4. Teacher Characteristics -- here the intent is to examine to see if there was any relationship between teacher characteristics, such as teacher experience, education, age and success with career units.

UNIVAL

An instrument, (UNIVAL), which was included within the curriculum unit package was designed to assist in gathering the basic data concerning the unit and lessons directly.

The unit and the UNIVAL booklet containing the evaluation instrument for the unit was delivered by the Implementation coordinator to the classroom teacher following an in-service session on the use and completion of the UNIVAL.

The following data was collected within the UNIVAL:

1. Learner Attitude Toward Unit
2. Learner Characteristics
3. Teacher Attitude Toward Unit
4. Sequence of Lessons Taught
5. Number of Hours Devoted Each Week to the Units

UNIVAL data was collected from approximately 11,000 students and 331 teachers.

IMPLEMENTATION RESULTS
OVERALL UNIT REVIEW

This section of the report presents the overall data summary and analysis for the implementation.

Significant summary statistics will be presented and discussed in the Implementation Results section of this report. Detailed statistical summaries for each unit are presented in separate reports, in Volume II. An outline of this section follows:

- A. A description of the implementation including demographic characteristics of participating students.
- B. Attitudinal data from both teachers and students concerning the units.
- C. Unit analysis data.

DESCRIPTION OF
THE PARTICIPANTS

The data in this report was obtained from the projects, teachers, and learners described in the following tables.

Table 3 presents the exact number of classrooms for which data was available in time for analysis. It was anticipated that each unit would be presented in as many classrooms as possible throughout the state. The resulting number was more than sufficient to form the basis for valid decisions concerning the units.

TABLE 3
UNIT TITLES AND IMPLEMENTATION CLASSROOMS

UNIT	TITLE	NUMBER OF CLASSROOMS
1	Tools for Toil	48
2	Reading, Writing and Numbering	63
3	What Do Workers Do?	37
4	Doing Your Thing	26
5	Developing Your Potential	18
6	Future Me	13
7	Following and Giving Directions	49
8	Ideas, Things to Think About	20
9	Skill Schemes	18
10	Look to Learning	17
11	Careers Calling	13
12	Then and Now	14
13	Composition of Business Letters	10

Learners

Table 4 presents demographic information on the learners that were exposed to the career education units in implementation. A total of approximately 11,000 learners (as of May 1st) were exposed to the 13 curriculum units throughout the state. From Table 4 it can be noted that the learners' demographic characteristics represented the state fairly well. There was approximately a 50/50 split on male-female learners. The ethnic composition included slightly less minority representatives than the state population. The equivalent state figures are 20% Spanish, 69% Anglo, 4% Black, 6% Indian and 1% Other.

Of the students tested, 3119 were representative of minority backgrounds 1831 (17%) Spanish Surname, 636 (6%) Black, 586 (6%) American Indian, 66 classified as Other and the remaining 7531 (71%) were Anglo.

When the ethnic composition or profile of the various sites in the implementation population is examined varying patterns are found. Table 5 exhibits an ethnic profile of each of the project's implementation participants with means (average of ethnic distributions of learners) for each of the ethnic groups.

From Table 5, it can be noted that DICE and WACOP were represented at a lower than implementation average percentage of American Indian, Black and Spanish Surname learners and a greater than average percent of Anglo students. Mesa and Yavapai had a lower than average number of Spanish and Black

NUMBER OF LEARNERS EXPOSED BY
SELECTED DEMOGRAPHIC CHARACTERISTICS

PROJECT	SEX		ETHNIC COMPOSITION					TOTAL NUMBER
	M	F	BILINGUAL STUDENT	AMERICAN INDIAN	BLACK	SPANISH SURIJAME	ANGLO WHITE	
Cochise	831	806	413 (25%)	4 (1%)	44 (3%)	545 (33%)	1015 (52%)	1637
Coconino	460	460	239 (26%)	271 (29%)	51 (6%)	108 (12%)	487 (53%)	920
DICE	329	340	40 (6%)	6 (1%)	4 (1%)	64 (10%)	593 (89%)	669
Mesa	1086	946	107 (5%)	68 (3%)	18 (1%)	194 (9%)	1745 (86%)	2032
Pima	802	750	183 (12%)	80 (5%)	22 (1%)	220 (14%)	1219 (78%)	1552
Pinal	318	295	186 (30%)	36 (6%)	46 (7%)	279 (45%)	249 (41%)	650
Roosevelt	319	331	52 (8%)	0 (0%)	438 (67%)	93 (14%)	114 (17%)	829
Tri-County	387	442	157 (19%)	101 (12%)	10 (1%)	256 (31%)	459 (55%)	1145
WACOP	554	591	12 (1%)	6 (1%)	2 (1%)	22 (2%)	1113 (97%)	605
Yavapai	314	291	10 (2%)	14 (2%)	1 (1%)	50 (8%)	539 (89%)	605
Total	5400	5252	1399	586	636	1831	7531	10650
*Percent	51%	49%	13%	6%	6%	17%	71%	1%
State Average				6%	4%	20%	69%	1%

*Implementation Mean

learners, about the average number of Indian students and a greater than average number of Anglo learners.

TABLE 5
LEARNER ETHNIC COMPOSITION PROFILE

PROJECTS	INDIAN	BLACK	SPANISH SURNAME	ANGLO
Cochise	-	0	+	0
Coconino	+	0	0	-
DICE	-	-	-	+
Mesa	0	-	-	+
Pima	0	-	0	0
Pinal	0	0	+	-
Roosevelt	-	+	0	-
Tri-County	+	-	+	0
WACOP	-	-	-	+
Yavapai	0	-	-	+

+ well above implementation mean
0 approximate
- well below

Tri-County's ethnic profile showed less than average number of Black students, an average number of Anglo students and a greater than average number of Indian and Spanish learners.

Coconino showed a high profile in Indian students. Pinal showed a greater profile of Spanish learners and a lower profile of Anglo learners. On the other hand Roosevelt exhibited a higher profile of Black than Indian and Anglo learners. Cochise had a greater profile of Spanish learners with lower than average Indian and only average Black and Anglo populations.

The total ethnic profile of implementation was similar to the State's but within the implementation, by project, were a diverse number of profiles. Therefore the success of the units can be seen under many profiles along with an overall profile. Administrators from other districts could determine their district's ethnic profile and by examining the various units' success in similarly profiled projects, could list priorities of unit acquisition. This will be discussed further in the section on unit effectiveness.

Teachers

Table 6 presents the total number and selected demographic characteristics of the teachers participating in the implementation.

It can be noted from Table 6 that there were more than four times as many female teachers presenting the units as male teachers. This is probably best explained by the fact that 10 out of the 13 units were elementary units.

The teachers that presented the units in the implementation appear fairly new to career education. Of the 331 teachers, only 52 (16%) had previous career education unit experience.

ATTITUDINAL DATA

Teacher Attitude

Included in each UNIVAL (Unit Evaluation Instrument) was

TABLE 6

PERCENT AND NUMBER OF TEACHERS
BY SELECTED DEMOGRAPHIC DATA

PROJECT	SEX		PREVIOUS CAREER UNIT EXPERIENCE	
	MALE	FEMALE	YES	NO
Cochise	16% (13)	84% (66)	6% (5)	94% (74)
Coconino	13 (4)	87 (26)	30 (9)	70 (21)
DICE	15 (2)	85 (11)	8 (1)	92 (12)
Mesa	30 (14)	70 (32)	35 (16)	65 (30)
Pima	19 (9)	81 (38)	11 (5)	89 (42)
Pinal	11 (3)	89 (24)	30 (8)	70 (19)
Roosevelt	16 (3)	84 (16)	16 (3)	84 (16)
Tri-County	21 (6)	79 (22)	7 (2)	93 (26)
WACOP	25 (5)	75 (15)	5 (1)	95 (19)
Yavapai	27 (6)	73 (16)	9 (2)	91 (20)
TOTALS	20 (65)	80 (266)	16 (52)	84 (279)

a question concerning the teacher's attitude toward the specific unit (see Appendix I).

Table 7 summarizes the teacher attitudes toward the units in implementation.

The overall response to the units was a very positive 3.98. Of the possible 331 responses, 82% (270) were positive, 11% (36) were of no opinion, and 7% (25) were negative.

Learner Attitude

When Learner Attitude toward the unit is examined, (Table 8), a fairly high positive feeling toward all units across all projects is also observed. Seventy-six percent of the student responses were positive toward the unit, 17% no opinion, and 7% were negative toward the units.

When the relationship between teacher and learner attitudes toward the units were examined it was found that a positive relationship, as measured by the correlation, existed between the two ($r = 0.60$ significant at the $\alpha = .001$ level). (see Table 10) It appears that Teacher Attitude toward the unit in implementation corresponded to the Student's Attitude toward the unit.

Presentation of the Unit

The 331 units that were placed were taught a total of approximately 691 hours per week or an average of just over 2 hours per week in each classroom. Table 9 shows the number and percent of teachers by the number of hours devoted to the units each week.

TABLE 7

TEACHER ATTITUDE
TOWARDS CAREER EDUCATION UNITS

PROJECT	*5	4	3	2	1	MEAN
Cochise	26% (21)	47% (37)	16% (13)	9% (7)	1% (1)	3.88
Coconino	37 (11)	47 (14)	10 (3)	7 (2)	- (0)	4.13
DICE	31 (4)	54 (7)	15 (2)	- (0)	- (0)	4.15
Mesa	15 (7)	54 (25)	13 (6)	17 (8)	- (0)	3.67
Pima	28 (13)	49 (23)	21 (10)	2 (1)	- (0)	4.02
Pinal	55 (15)	41 (11)	- (0)	4 (1)	- (0)	4.48
Roosevelt	10 (2)	84 (16)	5 (1)	- (0)	- (0)	4.05
Tri-County	32 (9)	68 (19)	- (0)	- (0)	- (0)	4.32
WACOP	10 (2)	70 (14)	- (0)	- (0)	20 (4)	3.50
Yavapai	23 (5)	68 (15)	4 (1)	4 (1)	- (0)	4.09
TOTALS	27 (89)	55 (181)	11. (36)	6 (20)	1 (5)	3.98

*On a scale of 1-5, a 5 indicates the highest unit attitude (very good);
a 1 indicates the lowest unit attitude (very poor).

STUDENT ATTITUDE
TOWARDS CAREER EDUCATION UNITS

PROJECT	*5	4	3	2	1	MEAN
Cochise	21% (17)	45% (36)	26% (21)	6% (5)	- (0)	3.82
Coconino	37 (11)	57 (17)	7 (2)	- (0)	- (0)	4.30
DICE	8 (1)	61 (8)	23 (3)	8 (1)	- (0)	3.69
Mesa	22 (10)	46 (21)	17 (8)	15 (7)	- (0)	3.73
Pima	15 (7)	57 (27)	25 (12)	2 (1)	- (0)	3.85
Pinal	44 (12)	41 (11)	8 (2)	8 (2)	- (0)	4.22
Roosevelt	16 (3)	68 (13)	5 (1)	5 (1)	5 (1)	3.84
Tri-County	32 (9)	57 (16)	3 (1)	7 (2)	- (0)	4.14
WACOP	25 (5)	50 (10)	25 (5)	- (0)	- (0)	4.00
Yavapai	23 (5)	64 (14)	14 (3)	- (0)	- (0)	4.09
TOTALS	24 (80)	52 (173)	17 (58)	6 (19)	1 (1)	3.94

*On a scale of 1-5, a 5 indicates the highest unit attitude (very good);
a 1 indicates the lowest attitude (very poor).

TABLE 9

Number and percent of teachers by number of hours devoted to unit each week.

UNIT ALL UNITS

PROJECTS	TIME DEVOTED TO THE UNIT EACH WEEK									
	Less 1 Hr.		1-2 Hrs.		2-3 Hrs.		3-5 Hrs.		5+ Hrs.	
	N	%	N	%	N	%	N	%	N	%
Cochise	34	58	2	41	1	2	1	2		
Coconino	3	10	17	57	6	29	3	10	1	3
DICE	3	23	3	23	2	15	5	39		
Mesa	6	12	25	48	10	19	9	17	1	2
Pima	14	31	18	38	6	13	5	11	1	2
Pinal	4	17	13	54	3	13	4	17		
Roosevelt			10	59	4	8			3	6
Tri-County	6	21	14	48	3	10	6	21		
WACOP	3	15	11	55	3	15	3	15		
Yavapai	4	17	8	35	7	30	3	13	1	4
TOTALS	77	25	144	46	45	14	39	12	7	2

Correlations

Table 10 presents the Pearson Product Moment Coefficients of correlation for the listed variables over all units.

There is a significant positive correlation between the following variables:

1. Perceived Unit Effectiveness and Time Devoted to the Unit.
2. Perceived Unit Effectiveness and Sequence Taught.
3. Perceived Unit Effectiveness and Teacher Attitude.

This would indicate that a teacher demonstrating unit effectiveness would have devoted more than 2 hours/week to the unit, would have taught the lessons in sequence and would have a very positive attitude toward the unit.

4. Time Devoted to the Unit and Sequence Taught.

The more time spent on the unit the more likelihood there was of it being taught in sequence.

5. Student Attitude and Perceived Unit Effectiveness.
6. Student Attitude and Teacher Attitude.

A positive Perceived Unit Effectiveness and a positive Teacher Attitude was reflected in positive attitudes from the students.

TABLE 10
CORRELATION MATRIX

N-311 Overall	Perceived Unit Effectiveness	Time Devoted to Unit	Sequence Taught	Teacher's Previous Unit Experience	Teacher Attitude	Learner Attitude
Perceived Unit Effectiveness		.1564	.2126	.0303	.5488	.5045
Time Devoted to Unit			.2968	-.0434	.0730	.0656
Sequence Taught				-.1072	.1015	.0929
Teacher's Previous Unit Experience					.0592	-.0167
Teacher Attitude						.6077
Learner Attitude						

Significance level $r = .108$, $\alpha = 0.05$

UNIT ANALYSIS

The overall measure of unit effectiveness in implementation are the three factors: Teacher Attitude toward the unit, Learner Attitude toward the unit, and Teacher Perceived Unit Effectiveness overall.

Unit Effectiveness

In implementation the factors determining unit effectiveness are Teacher Attitude toward the unit, Learner Attitude toward the unit, and Teacher Perceived Unit Effectiveness. The units were ranked in relation to each of these measures. An overall measure was then determined by combining the ranks for these three measures of unit effectiveness and an overall rank determined.

The overall effectiveness ranking, along with rankings across units for Teacher Attitude, Learner Attitude and Teacher's Perceived Unit Effectiveness are presented in Table 11.

The fifth grade unit "Following and Giving Directions" (7) ranked number 1 out of the 13 units with respect to Unit Effectiveness. The unit ranked 2, was also a fifth grade unit entitled "Developing Your Potential." It should be noted that with rankings some information is lost. A unit such as "Look to Learning," which exhibited the lowest ranking (13) was still a moderately successful unit when one examines the

Overall Effectiveness Ranking by Teacher Attitude Toward the Units, Teacher Attitude Toward the Units and Teacher's Perceived Effectiveness of the Unit.

TABLE 11

UNITS	STUDENT ATTITUDE SA	TEACHER ATTITUDE TA	PERCEIVED UNIT EFFECTIVENESS PE	EFFECTIVE- NESS RANK
7 Following and Giving Directions	1	2	2	1
5 Developing Your Potential	4	1	1	2
2 Reading, Writing, and Numbering	3	4	6	3.5
9 Skill Schemes	7	3	3	3.5
4 Doing Your Thing	2	12	4	5
12 Then and Now	9	7	5	6.5
1 Tools for Toil	5	9	7	6.5
3 What Do Workers Do?	6	7	10	8
11 Carrers Calling	8	5	12	9
6 Future Me	13	7	8	10
13 Composition of Business Letters	10	10	11	11
8 Ideas, Things to Think About	12	11	9	12
10 Look to Learning	11	13	13	13

mean attitudes. The Teacher Attitude had an average of 4.01, Learner Attitude 3.56 and Perceived Effectiveness 2.42 (on a scale of 1-3).

In general, the rankings give the reader an overall view of the units' comparative success, but for any detailed analysis the individual reports on the units must be read.

Effectiveness and Ethnic Profile

In an effort to assist future users of the unit, in terms of installing units with higher probabilities of success within their own district, the following Unit Effectiveness rankings were computed for the various bilingual and ethnic profiles represented in implementation (Tables 12 through 20).

It must be noted at this time that not all units were tested within all projects. Therefore, a unit may not be ranked within a particular ethnic profile because it was not tested within that specific profile. In that case we have no data concerning that unit's performance within the specific ethnic profile. This is not to say that it would not be successfully installed in such a district. The data here is presented only as a guide to installation, and should not be used without examining the specific unit and the associated individual unit report recommendations.

Unit Effectiveness and Classroom Type

The effectiveness of the units did not correlate with the type of classroom situation - either open or self-contained. Teachers had effective or very effective unit activities in

TABLE 12

COCONINO, PINAL, TRI-COUNTY, COCHISE

ETHNIC
PROFILEBilingual population
greater than 20%see
page 9

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
4	1.5	2	2.5	1.5
12	4	1	1	1.5
7	1.5	3	9	3
1	5	7	6	4
9	8.5	6	5	5
3	6	5	10	6
5	10	4	7.5	7
8	12	8	4	8
6	11	13	2.5	9.5
10	3	12	12	9.5
2	7	9	11	11.5
11	8.5	10.5	7.5	11.5
13	13	10.5	13	13

TABLE 13

DICE AND WACOP

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	-	-	-	+

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
6	1	1.5	2.5	1
7	2	3	2.5	2
5	6.5	1.5	2.5	3
1	3	5.5	5	4
4	4	9	2.5	5
10	6.5	5.5	6.5	6
11	6.5	5.5	10	7.5
12	6.5	5.5	10	7.5
3	9	9	8	9
13	11	11	6.5	10

TABLE 14

TRI-COUNTY

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	+	-	+	0

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
12	1.5	2.5	2	1
7	1.5	2.5	9.5	2
3	6	2.5	5.5	3.5
5	6	2.5	5.5	3.5
2	3	6	7	5
6	6	8.5	2	6.5
11	6	8.5	2	6.5
8	9.5	5	4	8
1	6	8.5	8	9
13	9.5	8.5	9.5	10

TABLE 15

PIMA

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	0	-	0	0

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
5	4	1.5	1.5	1.5
9	4	1.5	1.5	1.5
7	1.5	3.5	4.5	3
11	4	3.5	4.5	4
1	1.5	5	7	5
4	7.5	6	4.5	6
10	7.5	8.5	4.5	7
3	6	8.5	10	8
2	9	7	9	9
12	10.5	10	8	10
8	10.5	11	11	11
6	12	12	12	12

TABLE 16

PINAL

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	0	0	+	-

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
4	2	1.5	2.5	1
1	1	5	2.5	2
12	6.5	1.5	2.5	3
7	3	3	5	4
8	6.5	5	2.5	5
3	4	5	6.5	6
2	5	7.5	8	7
6	8	10	6.5	8
10	9	7.5	9.5	9
5	10	9	9.5	10

TABLE 17

ROOSEVELT

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	-	+	0	-

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
7	3	1	2	1
4	1	5.5	2	2
3	2	5.5	5.5	3
2	6	5.5	2	4
1	4	5.5	5.5	5
12	8	5.5	4	6
9	6	5.5	8.5	7.5
11	6	5.5	8.5	7.5
6	10	5.5	8.5	9
10	9	10	8.5	10

TABLE 18

COCOMINO

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	+	0	0	-

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
5	2.5	2.5	1	1
1	1	1	4.5	2
7	2.5	2.5	2	3
4	4	4	4.5	4
2	5	7	3	5
3	6.5	5	6	6
11	6.5	6	8	7
10	8	8	7	8

TABLE 19

COGNISE

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	-	0	+	0

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
5	1	1	3.5	1
9	3.5	2	1	2
7	2	3	5	3
8	3.5	4	3.5	4
1	5	5	2	5
2	6	6	6	6

TABLE 20
MESA AND YAVAPAI

ETHNIC PROFILE	A.I.	B.	S.S.	A.
	0	-	-	+

UNITS	STUDENT ATTITUDE (SA)	TEACHER ATTITUDE (TA)	PERCEIVED UNIT EFFECTIVENESS	EFFECT. RANK
5	5	1	1	1
7	3	5	2	2
2	1	4	6	3
1	2	2.5	7	4
6	8	2.5	3	5
4	5	9	4	6
3	8	8	5	7.5
13	5	6.5	9.5	7.5
12	8	10	9.5	9
11	12	6.5	11	10
9	10	12	8	11
10	11	11	12	12
8	13	13	13	13

TABLE 21

PROJECT		OPEN			SELF-CONTAINED		
		VE	EFF	NE	VE	EFF	NE
Coconino	N				14	14	
	%				50	50	
Cochise	N	4	2		25	26	3
	%	67	33		46	48	6
DICE	N				5	5	
	%				50	50	
Mesa	N	6	7	3	8	13	1
	%	37	44	19	36	59	5
Pima	N	5	4		13	17	3
	%	56	44		39	52	9
Pinal	N	5	3		10	4	1
	%	63	37		67	27	7
Roosevelt	N	2	1		8	8	
	%	67	33		50	50	
Tri-Ccunty	N	2	4		13	8	1
	%	33	67		59	36	5
WACOP	N	1	7	2	7	1	
	%	10	70	20	87	13	
Yavapai	N		1		12	8	
	%		100		60	40	
Totals	N	25	29	5	115	104	9
	%	42	49	8	50	46	4

Unit Activities: VE Very Effective
EFF Effective
NE Not Effective

26 teachers checked neither type of classroom.

SUMMARY

1. A total of approximately 11,000 learners were exposed to the units in the nine participating projects. Fifty-one percent of the learners were male, and seventy-one percent of the learners were Anglo.
2. Of the 331 teachers that presented the units only 65 were male. Fifty-two of the teachers had previous career unit experience.
3. Teacher Attitude toward the units -- the teachers were very positive overall toward the units (3.98). Of the possible 331 responses, 82% were positive, 11% were of no opinion and 7% were negative.
4. Learner Attitude was very positive toward all units across all projects (3.94 on a scale where 5 was the highest possible response). Seventy-six (76) percent of the student responses were positive toward the unit, 17% no opinion, and 7% were negative toward the unit.
5. The Teacher's Perceived Unit Effectiveness was also positive (2.42 on a scale where 3 was the highest possible response).

6. Measures of overall Unit Effectiveness based on Teacher Attitude toward the unit, Learner Attitude toward the unit, and Teacher's Perceived Unit Effectiveness were calculated for each unit. A ranking of the units in terms of unit effectiveness is presented in the report.
7. Student demographic data from the implementation sites were subjected to an ethnic profile. Overall units effectiveness was ranked in relation to ethnic profiles, so that districts with comparable ethnic profiles could use the information for distribution decisions.

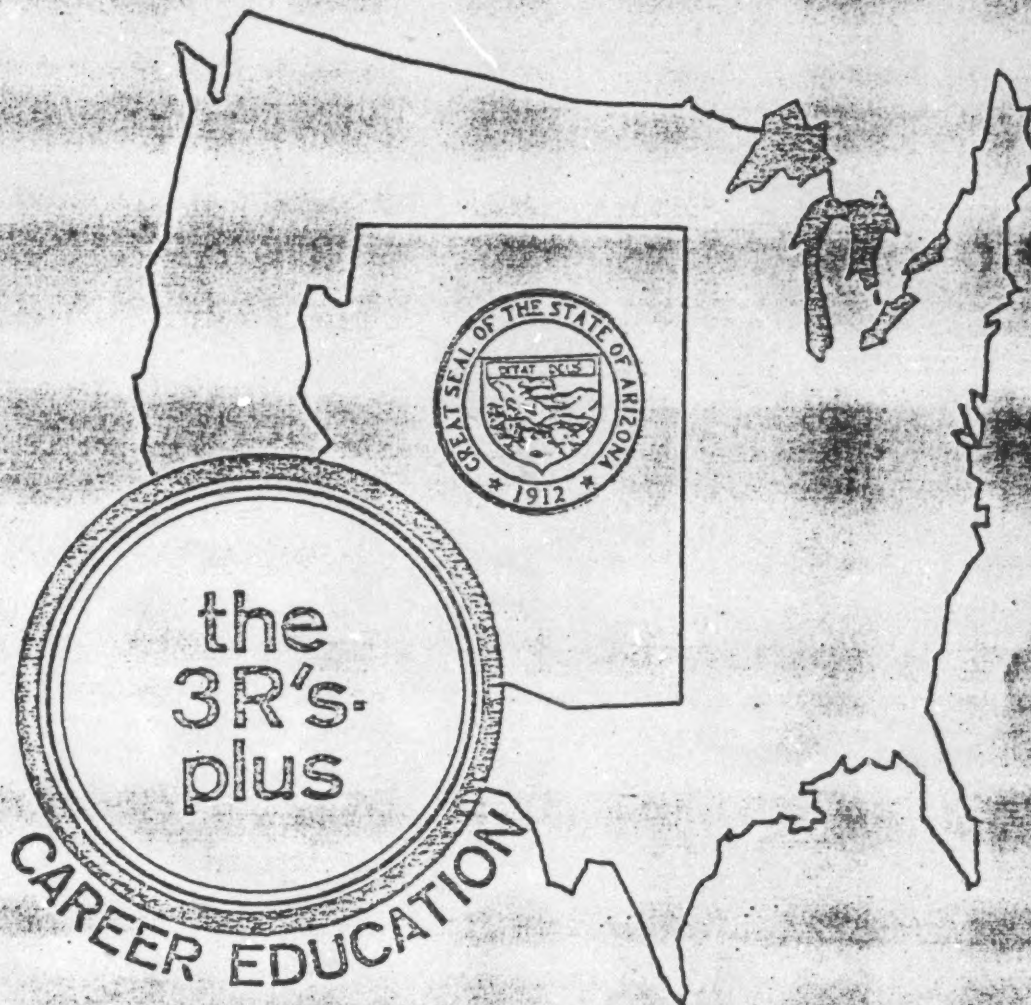
RECOMMENDATIONS

1. All 13 units which were implemented should be included for future statewide dissemination.
2. It is recommended that an attachment containing suggestions for refinements, listed in the individual unit reports, be attached to the appropriate units for use by future users of these units.

APPENDIX I

UNIVAL

IMPLEMENTATION
INSTRUMENT PACKAGE



Unit Evaluation
UNIVAL

PART I

CAREER EDUCATION IMPLEMENTATION
PROGRAM INFORMATION

(To be completed prior to teaching the unit)

Instructor _____ School _____

Unit Title _____ District _____

Grade Level _____ Project _____

Date unit introduced in the classroom _____ / _____ / _____
mo. day year

Student Data: (*The numbers should agree)

1. *Total number of students exposed to the unit _____

2. *Number of students of each sex: a. Male _____ Female _____

3. *Number of students in each ethnic group:

a. American Indian _____ d. Anglo White _____

b. Black _____ e. Other _____

c. Spanish Surname _____

4. Number of bilingual students _____

PART II

(To be completed after unit has been taught)

DIRECTIONS: Circle the letter of your answer in each of the following questions.

Teachers:

How effective were the learning activities in helping meet the performance objective stated?

- a. Very effective
- b. Somewhat effective
- c. Not effective

Is your classroom: (more than one may be applicable)

- a. Open
- b. Self-contained
- c. Team taught

How much time did you devote to the unit each week?

- a. Less than 1 hour
- b. 1-2 hours
- c. 2-3 hours
- d. 3-5 hours
- e. More than 5 hours

To what extent was the sequence of the lessons in the unit followed?

- a. In sequence
- b. Partial sequence
- c. Not at all

Which lessons did you eliminate, if any? Why?

Any further comments or suggestions concerning the strengths or weaknesses of the unit?

Have you field tested a unit before? Which one?

Teacher's Attitude
Towards the Unit

VERY GOOD	GOOD	NO OPINION	POOR	VERY POOR

Student's Attitude
Towards the Unit

VERY GOOD	GOOD	NO OPINION	POOR	VERY POOR